CLAIMS

What is claimed is:

1. A system for reserving a virtual connection from a source workstation to a destination workstation wherein packets of data are transmitted over an network between an ingress node os said source workstation and an egress node of said destination workstation, said system comprising:

a reservation server accessible by said source workstation including connection setup means for setting up a virtual connection meeting a predefined Quality of Service (QoS) requirement from said ingress node to said egress node in response to a request from said source workstation.

2. The system according to claim 1, wherein said reservation server includes a user database for storing the identification of each user allowed to access said reservation server.

3. The system according to claim 2, wherein said user database further stores the rights of each user allowed to access said reservation server.

4. The system according to claim 1, wherein said reservation server further includes a network database for storing the information describing a network capacity required to set up said virtual connection.

5. The system according to claim 1, wherein said source workstation includes a user FlowID database for storing at least one FlowID, wherein said at least one FlowID identifies at least one the flow transmitted from said source workstation.

6. The system according to claim 1, wherein said ingress node includes an edge FlowID database for storing at least one FlowID for flows that have been reserved by said reservation server.

7. The system according to claim 1, wherein said ingress node includes a port forwarding database for storing information required by said ingress node when receiving a first packet of a flow that has been reserved by said reservation server.

8. A method for reserving a virtual connection from a source workstation to a destination workstation wherein packets of data are transmitted over a network between an ingress node of said source workstation and an egress node of said destination workstation, said method comprising:

sending a reservation request from said source workstation to a reservation server;

verifying that said request may be validated in view of user information within said source workstation, wherein said user information is accessible by said reservation server;

verifying that the capacity of said network is sufficient to meet the requirements of said reservation request; and

in response to the capacity of said network being sufficient to meet the requirements of said reservation request, establishing a virtual connection from said ingress node to said egress node.

9. The method according to claim 8, wherein said step of verifying that said request may be validated further comprises:

verifying the authentication of said user; and

verifying the user rights to obtain said virtual connection.

10. The method according to claim 8, further comprising in response to insufficient capacity of said IP network with respect to a previous reservation request, delivering a new reservation request from said source workstation to said reservation server, wherein said new reservation request includes new parameters that are set in accordance with the capacity of said network as reported from said reservation server to said source workstation.

11. The method according to claim 8, further comprising delivering from said reservation server to said ingress and egress nodes, information required to set up a virtual connection from said ingress node to said egress node and a flow identification of the communication to be established such that said ingress node may transmit any packet received from said source workstation over said connection.

12. The method according to claim 11, wherein the information sent by said reservation server to said ingress and egress nodes to set up a virtual connection includes a FlowID identifying the flow corresponding to the communication to be established over said virtual connection.

13. The method according to claim 12, further comprising comparing a FlowID of a new packet received by said ingress node with at least one FlowID corresponding to at least one reserved virtual connection that has been

established from said reservation server to said ingress node.

14. The method according to claim 12, further comprising delivering a RouteID from said reservation server to said ingress and egress nodes, wherein said RouteID identifies a route already known by said nodes.

15. The method according to claim 11, wherein the header of all packets belonging to the flow using said virtual connection includes a source address, a destination address, a port number, and a Quality of Service identifier.